

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

REC'D 13 MAY 2005

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To:

see form PCT/ISA/220

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/IB2005/050790

International filing date (day/month/year)
03.03.2005

Priority date (day/month/year)
25.03.2004

International Patent Classification (IPC) or both national classification and IPC
G11B19/10

Applicant
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1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1b/s(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/IB2005/050790

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/B2005/050790

Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-13
	No: Claims	
Inventive step (IS)	Yes: Claims	1-13
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-13
	No: Claims	

2. Citations and explanations

see separate sheet

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

Re Item V.

- 1 Reference is made to the following document:
D1 : US 4 499 571 A (YOKOTA ET AL) 12 February 1985 (1985-02-12)
- 2 Document D1, which is considered to represent the most relevant state of the art, discloses (the references in parentheses applying to this document):

Method for sensing presence or absence of disk (Fig. 1, 23, 24, 26) in an optical disk apparatus. The drive has an led and light sensor (shown only as 23) on the same side of the disk. When the disk is present light from the led is reflected back into the sensor. If no disk is detected the laser is turned off.

From this, the subject-matter of independent claim 1 differs in that:

the system uses an led (Fig. 4, 11) placed at the centre of the disk(8), which transmits light into transparent substrate of the disk via prism 19 and reflective element 20. Light internally reflected through the disk is detected by multiple detectors at the disk edge (Fig. 1, 13; Fig. 3, 13). The disk is only detected as present in the correct position if all detectors receive light, otherwise the laser is switched off for safety reasons.

- 2.1 The subject-matter of claim 1 is therefore novel (Article 33(2) PCT)
The problem to be solved by the present invention may be regarded as:

preventing the operation of a laser diode in an optical disk apparatus if the said disk is not present in the drive and correctly positioned

- 2.2 The solution to this problem proposed in claim 1 of the present application is considered as involving an inventive step (Article 33(3) PCT) for the following reasons:

the proposed arrangement, which uses the disk substrate as a light guide in order to

convey light from source to multiple detectors, would not be obvious with respect to the prior art, which detects the presence of the disk by interrupting the transmission of light from source to detector.

- 2.3 Claims 2-6 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

- 3 Document D1, which is considered to represent the most relevant state of the art, discloses (the references in parentheses applying to this document):

Device for sensing presence or absence of disk (Fig. 1, 23, 24, 26) in an optical disk apparatus. The drive has an led and light sensor (shown only as 23) on the same side of the disk. When the disk is present light from the led is reflected back into the sensor. If no disk is detected the laser is turned off.

From this, the subject-matter of independent claim 7 differs in that:

see section 2 above.

- 3.1 The subject-matter of claim 7 is therefore novel (Article 33(2) PCT)
The problem to be solved by the present invention may be regarded as:

see section 2 above.

- 3.2 The solution to this problem proposed in claim 7 of the present application is considered as involving an inventive step (Article 33(3) PCT) for the following reasons:

see section 2 above.

- 3.3 Claims 8-11 are dependent on claim 7 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

- 4 Document D1, which is considered to represent the most relevant state of the art, discloses (the references in parentheses applying to this document):

see section 2 above.

From this, the subject-matter of independent claim 12 differs in that:
see section 2 above.

- 4.1 The subject-matter of claim 12 is therefore novel (Article 33(2) PCT)
The problem to be solved by the present invention may be regarded as:

see section 2 above.

- 4.2 The solution to this problem proposed in claim 12 of the present application is considered as involving an inventive step (Article 33(3) PCT) for the following reasons:

see section 2 above.

- 5 Document D1, which is considered to represent the most relevant state of the art, discloses (the references in parentheses applying to this document):

see section 2 above.

From this, the subject-matter of independent claim 13 differs in that:

see section 2 above.

- 5.1 The subject-matter of claim 13 is therefore novel (Article 33(2) PCT)
The problem to be solved by the present invention may be regarded as:

see section 2 above.

- 5.2 The solution to this problem proposed in claim 13 of the present application is

considered as involving an inventive step (Article 33(3) PCT) for the following reasons:

see section 2 above.

Re Item VIII.

The application does not meet the requirements of Article 6 PCT, because claims 1, 7, 12 and 13 are not clear.

Taking method claim 1 as exemplary, it is not clear that the first boundary is the inner edge of the disk, the second boundary the edge of the disk and that transmission of light is through the substrate parallel to the plane of the disk surface. Device claim 7 suffers the same problem by analogy, and claims 12 and 13 similarly because of their dependence upon reference to claims 1 and 7 in their definitions (although they are drawn as independent claims).